Table. Summary of findings comparing patients with and without limb ischemia

	Age (years)	*Male Gender*	*BSA (m^2)*	*BMI*	*Cannula Size (Fr)*	*Mortality (%)*
Limb ischemia	36 ± 18	7/7	2.09 ± 0.29	29.5 ± 10.0	16.9 ± 1.1	4/7 (57)
No limb ischemia	58 ± 14	20/26	2.13 ± 0.27	30.8 ± 5.4	18.0 ± 1.7	23/26 (88)
Prophylactic-Y	44 ± 16	7/10	2.06 ± 0.23	29.4 ± 9.0	17.7 ± 1.8	7/10 (70)
P-value*	0.001	0.30	0.57	0.65	0.09	0.09

BMI, Body mass index; *BSA,* body surface area.
*Between "limb ischemia" and "no limb ischemia" groups.

Does the Addition of Routine IVC/Iliac Vein and Infrapopliteal Duplex Scan Confer any Benefit?

Alhabouni S, Hingorani A, Ascher E, et al

Objectives: The routine evaluation for lower extremity deep vein thromboses (DVT) usually involves the femoral and popliteal veins with no regard to the more proximal (Iliac and inferior vena cava [IVC]) veins or the more distal (infra-popliteal) veins. In this study, we attempted to evaluate the benefits of routine scanning of these segments.

Methods: We reviewed 1624 consecutive lower extremity venous duplex studies performed for 1513 of our in-house patients between January 2008 and July 2008. All studies included routine evaluation of the IVC/iliac and infra-popliteal vein segments. All studies were also evaluated for any evidence of pulmonary embolism (PE).

Results: The IVC/iliac vein segments were completely evaluated in 1270 duplex studies with evidence of IVC/iliac vein DVTs in 37 (2.9%). In 354 studies, the evaluation was incomplete due to improper visualization of the IVC mostly due to bowel gas. Despite that, evidence of iliac vein DVT was noted in 18 (5.1%) of these studies. In total, the addition of routine iliac vein/IVC duplex scan resulted in the detection of 55 (3.38%) DVTs with evidence of PE in five (incidence of 9.1%). In five of those 55 duplex studies, the IVC/iliac vein DVT was the only DVT detected, with evidence of PE in one (incidence of 20%). The rest of the study population had evidence of DVT in 244 studies (15.55%) with evidence of PE in 32 (incidence of 13.1%) of them ($P = .59$). Infra-popliteal segment: 145 infra-popliteal DVTs were detected, of which 50 (34.5%) were isolated to the infra-popliteal segments with evidence of PE in three (incidence of 6%). The rest of the study population showed evidence of DVT in 98 with evidence of PE in 14 (incidence of 14.3%) ($P = .135$).

Conclusions: Although routine scanning of the IVC/Iliac veins resulted in detection rate of 3.38%, the detection of an isolated DVT in those veins was very low (0.3%). However, isolated DVT of the iliac veins had a PE rate of 20%. As for the routine scanning for infra-popliteal DVTs, 50 additional DVTs were detected with a PE rate of 6%, with no statistical difference from the rate of PE from more proximal segments (P = .135). Hence infra-popliteal DVTs should be regarded as risky as more proximal DVTs and should therefore be treated similarly.

Mechanical-Chemical Endovenous Ablation: A New Tumescentless Technique

Elias S

Objectives: The minimally invasive management of vein disease continues to evolve. Endothermal methods to ablate the great and small saphenous veins involve the use of tumescent anesthesia for analgesia and compression with possible adjunctive intravenous sedation. Foam sclerotherapy of the great and small saphenous veins has been attempted with mixed results. A new endovenous device that does not require tumescent anesthesia or intravenous sedation, ClariVein® (Vascular Insights LLC, Conn), was evaluated. The ClariVein® catheter utilizes endovenous mechanical vein wall destruction with a rotating wire and the simultaneous infusion of a liquid sclerosant (Sotradecol®) to enhance venous ablation. This endovenous mechanical treatment is unique. This Institutional Review Board-sanctioned study evaluated the safety and efficacy of this technique.

Methods: The ClariVein device was utilized in 30 patients with great saphenous vein incompetence. All procedures were performed in office with only local anesthesia at the access site. No tumescent anesthesia or intravenous sedation was employed. Ultrasound guidance similar to other endovenous procedures was used. Post treatment care was similar to endovenous thermal ablative procedures.

Results: Total procedure time was less than 15 minutes. Access was at the lowest level of incompetence but no lower than below the knee. Results at one week, one month, and three months will be presented including occlusion rates greater than 90%. Complication rates and symptom resolution will be discussed.

Conclusions: The unique endomechanical ablative aspect of the ClariVein coupled with a safe FDA approved liquid sclerosant represents a further simplification and advancement in the treatment of venous disease. This is accomplished without the tumescent anesthesia currently required for endothermal methods and an early success rate comparable to these methods.

Endovenous Ablation plus Microphlebectomy/Sclerotherapy for the Treatment of Varicose Veins: A Single or Two-Stage Procedure?

Schanzer H

Objectives: Endovenous ablation (EVA) of the saphenous vein has almost completely replaced surgical stripping for the treatment of saphenous vein reflux. In contrast to stripping that includes microphlebectomy, EVA is generally performed in two stages (ablation followed, when needed, by microphlebectomy or sclerotherapy). The purpose of this study was to determine how often second stage procedures are required after EVA.

Methods: All consecutive patients undergoing laser EVA between March 2007 and December 2008 were enrolled. At presentation, the clinical severity of venous insufficiency was graded according to CEAP classification. Patients were examined clinically/ultrasound at one week, and clinically at one month. Varicose vein resolution following EVA was classified as excellent (no varicosities), good (major reduction in size), and poor (no change). Need for further intervention was determined at the one month follow-up.

Results: During the study period, 86 lower extremities in 76 patients were treated with laser EVA (50 females, 26 males, mean age 50 ± 15 years). By CEAP classification, 75 extremities were C2 (87.2%), five were C4 (5.8%), two were C5 (3.5%), and two were C6 (3.5%). Greater saphenous veins were treated in 72 extremities (83.7%), small saphenous veins in 10 extremities (11.6%), anterior branch of the greater saphenous vein in two extremities (2.3%), and both the greater saphenous vein and anterior branch in two extremities (2.3%). The mean vein treatment length was 26.3 ± 9.7 cm with a mean energy delivery of 64 ± 11.3 Joules. At one week, all 86 extremities had the treated segment of vein closed and one of them had partial extension of clot to the common femoral vein (1.16% incidence of deep vein thrombosis [DVT]). At one month, complete resolution of varicosities was found in 36 extremities (41.8%), reduction in size in 48 extremities (55.8%), and no improvement in two extremities (2.3%). Of the patients with remaining varicosities, 15 extremities (17.4%) had small persistent asymptomatic varicose veins of no concern to the patient. The remaining 35 extremities (40.7%) required a second stage procedure.

Conclusions: After EVA, 59.3% of extremities did not require any further treatment. These results justify the performance of EVA alone as a first stage, as the majority of patients will be spared unnecessary microphlebectomy or sclerotherapy.

Evaluating the Availability of On-call Venous Duplex Scanning: A New Paradigm for Efficient Use of the Vascular Lab

Arnaoutakis G, Pirruccello J, Brooke B, Reifsnyder T

Objectives: Venous duplex ultrasound (VDU) is the standard evaluation for acute deep vein thrombosis (DVT). Having the test available at all hours imposes significant costs and universal availability may be unnecessary. The purpose of this study was to compare the treatment and outcomes of patients with suspected DVT before (2005) and after (2007) eliminating the availability of 24-hour VDU.

Methods: A retrospective cross-sectional study was performed among patients evaluated by the emergency department (ED) for suspected DVT during the years 2005 and 2007. The association of clinical variables, VDU results, treatment, and complications were compared between time periods using bivariate and multivariate regression models following propensity score matching.

Results: In 2005 and 2007, 320 and 366 patients, respectively, had VDU after referral by the ED. There were 31 acute DVTs in 2005 and 25 in 2007. There was no detected difference in thromboembolic complications. Forty-nine (16%) tests during 2005 were done after hours. The number of patients treated empirically before confirmation of DVT was significantly higher in 2007: 51 (14%) vs 26 (8%) (P = .019). Empiric treatment was also more frequent in 2007 in patients confirmed to have acute DVT: seven (28%) vs. three (7%) (P = .023). After matching patients by propensity scores, regression models revealed a trend toward increased likelihood of empiric treatment if patients had risk factor(s) known to indicate high risk for DVT. There were no documented complications from empiric anti-coagulation. Estimated savings for one year were $27,000.

Conclusions: The data suggest that elimination of around-the-clock VDU services can render substantial savings to hospitals with no adverse consequence in the acute management of DVT.

Long Term Functional Results of the Surgical Management of Neurogenic Thoracic Outlet Syndrome (NTOS)

Scali ST, Stone DH, Bjerke AA, Chang CK, Rzucidlo EM, Walsh DB

Objectives: To document long-term functional outcomes in patients treated for neurogenic thoracic outlet syndrome (NTOS).